

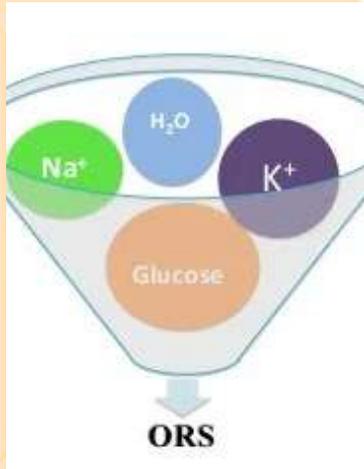


Paediatrics

AIIMS, Rajkot

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World ORS Day



- ✓ The day is observed on 29th July to create awareness about the importance of Oral Rehydration Salts (ORS) in saving millions of lives
- ✓ ORS is recommended by WHO and UNICEF as a treatment for dehydration across the globe
- ✓ ORS contains a combination of electrolytes (salt) and sugar that averts or reverses dehydration and replaces lost salts



Message from department

The Main theme of world ORS day 2022 is "**Jodi No.1 ORS & Zinc**" The Indian Academy of Pediatrics has proposed to celebrate **ORS week from 25th-31st July 2022.**

Diarrhea is third leading cause of child mortality in India contributing to 9.9% of under5 mortality. Most deaths from diarrhea which are easily preventable with ORS. Despite the proven success of ORS, usage rate of the ORS is low. According to NFHS-5 survey, only 60.6% children under the age of 5 with diarrhea were given ORS and only 30.5% were given Zinc. So we endeavor to disseminate information to increase its use.

Dr. Pinky Meena (Assistant Professor)

Dr. Riddhi Parmar (Junior Resident)



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HISTORY

The World Health Organization (WHO) adopted ORS as the main strategy to combat dehydration caused due to diarrhea in 1978. Until that period, intravenous fluid therapy (IV fluids) was the "gold standard" to treat moderate and severe dehydration.

In India, ORT was developed in the late 1960s by researchers from the International Centre for Diarrheal Disease Research in Bangladesh (then East Pakistan), for the treatment of cholera. The Indo-Pakistani War of 1971 provoked a public health emergency, cholera to spread in the refugee camps .

In the refugee camps where ORS was being used the death rate was only 3%, compared to 20-30% in those camps using only intravenous fluid therapy.

Between 1980 and 2000, ORT decreased the number of children under five dying of diarrhea from 4.6 million worldwide to 1.8 million- a 60% reduction. ORT is considered as "potentially the most important medical discovery of the 20th century".

ORS day was established by the Indian Academy of Pediatrics in 2001, to lower the childhood diarrhea case deaths, now it is observed across the country.

In 2002, Drs. Norbert Hirschhorn, Dilip Mahalanabis, David R. Nalin, and Nathaniel F. Pierce were awarded the first Pollin Prize for Pediatric Research, in recognition of their work in developing oral rehydration therapy (ORT).



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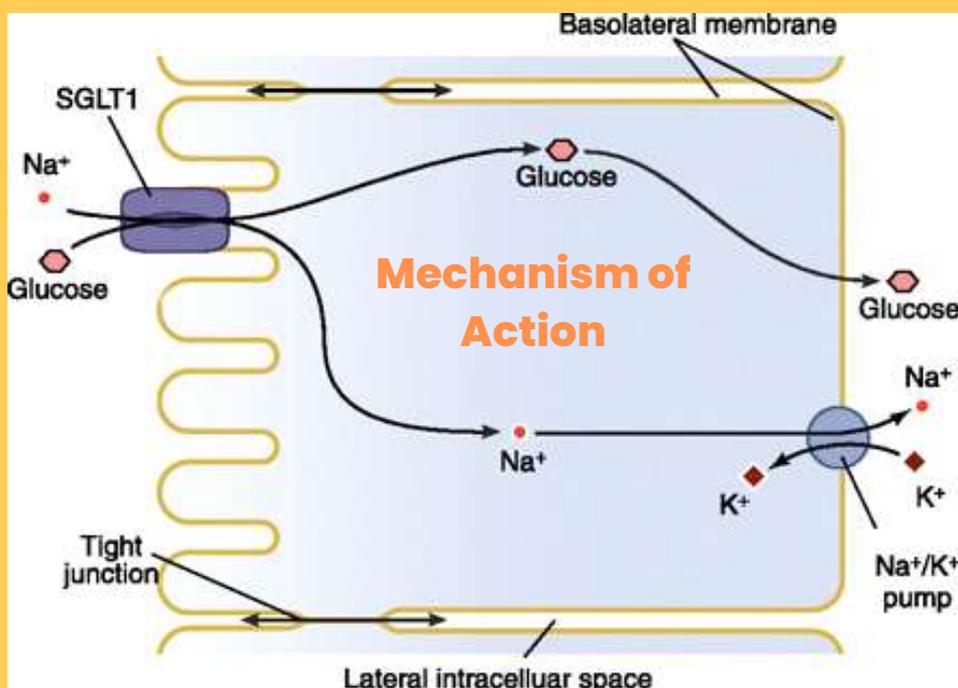
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ORAL REHYDRATION THERAPY

Composition	ReSoMal (mmol/L)	Standard ORS (mmol/L)	Reduced osmolarity ORS
Glucose	125	111	75
Sodium	45	90	75
Potassium	40	20	20
Chloride	70	80	65
Citrate	7	10	10
Magnesium	3
Zinc	0.3
Copper	0.045
Osmolarity (mOsm/L)	300	311	245

Rehydration Solution for Malnutrition (ReSoMal)

1 ORS packet + 50 gm sugar + 40 gm electrolytes and minerals (Cu, Zn, Mg) + 2 litre water



The efficacy of ORS is based on ability of glucose to stimulate Na & fluid absorption in the small intestine via a cyclic AMP - independent process.



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Types OF ORS

Low Osmolarity ORS:

It is a type of oral rehydration solution that lowers the incidence of stool by 30% and vomiting by 20%. It is more tolerable by the system as it helps in reducing the amount of glucose and sodium in the solution without any adverse side effects. Moreover, low osmolarity ORS lowers the need for intravenous fluids

Tri-Sodium Citrate ORS:

This type of ORS with citrate is beneficial in treating acidosis, which often develops with dehydration. Trisodium citrate enhances the intestines capacity to absorb more sodium and water. Glucose added in this ORS solution mainly help in the absorption of sodium and not as a source of fuel. It has a longer shelf life and highly recommended ORS therapy by WHO and UNICEF.

Rice-Based ORS:

Rice bases ORS is particularly helpful in patients with a high purging caused due to cholera. It significantly reduces the stool output by 40% due to diarrhoea or cholera and offers more glucose to counteract the loss of glucose together with carbs. It is also the most widely accepted type of ORS in some parts of the globe. Studies have also revealed that other variety of starch like maize and wheat may also render similar results, without increasing the osmolarity of the solution

Home Based ORS

Home-based ORS works as the first line of preventive solution recommended to any patients who exhibits mild signs of dehydration. This solution is highly effective in preventing dehydration and maintains the nutritional status by restoring fluid balance and food intake. Furthermore, this helps the patients in not losing excess amounts of fluids before getting proper medical care.

Super ORS:

Super ORS are special kinds of ORS where instead of mono sugars it comprises of more complex sugars and trace amounts of zinc. It may be food-based such as rice or starch-free like glycine/ alanine based or glucose polymer-based. Some of the benefits of using Super ORS includes it improves rehydration, lessen stool frequency and duration, offer more nutritional support, helps in gaining weight, prevent secondary disaccharide intolerance, replenishes fluid balance and strengthens the immune system.



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Doctor's recommend
O.R.S. & Zinc
as the right treatment for Diarrhoea.
Restore your child's energy and strength.

Things to note when the child gets Diarrhoea



Dissolve one O.R.S. packet in 1 litre drinking water in a clean vessel



At the onset of Diarrhoea and after every motion give the O.R.S. solution to the child



Give 1 Zinc tablet dissolved in a spoon of drinking water or mother's milk for 14 days



During and after Diarrhoea, continue feeding mother's milk, give extra milk during and after illness and supplementary nutrition to the child

O.R.S. dosage for different age groups



Less than 2 months old child



5 spoons of solution after every motion



2 months to 2 years child



$\frac{1}{2}$ cup – $\frac{1}{2}$ cup after every motion



2 years to 5 years old child



$\frac{1}{2}$ cup – 1 cup after every motion

Give O.R.S. to the child from the onset of Diarrhoea and after every motion, till Diarrhoea subsides

Benefits of Zinc

Reduces duration and intensity of Diarrhoea

Protection from Diarrhoea for 3 months

Increases immunity for longer period



Dosage of Zinc tablets for different age groups

2 months - 6 months old child

$\frac{1}{2}$ tablet (10 mg) in clean water or mother's milk
10 mg



6 months - 5 years old child

1 tablet (20 mg) in clean water or mother's milk
20 mg

Zinc for 14 days, once daily

Before cooking, feeding food and after cleaning child's stool / toilet use, wash your hand properly with soap. Dispose off your child's stool quickly and safely.

O.R.S. and Zinc are available free of cost with ASHA, ANM and at the nearest health facility.



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Preparation of ORS at Home

- 1 liter clean water (boiled and cooled at room temperature)
- 6 level teaspoon sugar
- ½ teaspoon salt.
- Blend the mixture well until sugar and salt dissolve.

ORS must be stored in a covered container and for not more than 24 H due to the risk of bacterial infections.

Symptoms to look out for dehydration

- Dry lips
- Little or no urination for at least 8 hours
- Dark-colored urine
- Cold or dry skin
- Acute sleeplessness
- Lack of tears when crying
- Fast heart rate

Brainers

Why is osmolality reduced in ORS?

One successful approach is based on reducing the osmolality of ORS solution to avoid possible adverse effects of hypertonicity on net fluid absorption. This was done by reducing the solution's glucose and salt (NaCl) concentrations

Which type of ORS is best?

Rice based ORS tastes better and provide more calories than the glucose based. It is culturally acceptable, reduces stool volume (by about 40%), and shortens the duration of diarrhea.

Message from Executive Director

AllMS Rajkot is glad to use its newsletter to disseminate vital information related to health and participate actually in public health issues. I appreciate the efforts of Department Of Pediatrics in this regard.

- Dr. (Col.) CDS Katoch